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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF WATER POLLUTION CONTROL

CRITERIA FOR DETERMINING FISCAL YEAR 1975 CONSTRUCTION GRANT PRIORITIES FOR MUNICIPAL SEWAGE TREATMENT WORKS PROJECTS

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INTRODUCTION

The Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) authorizes the United States Environmental Protection Agency to provide grants for the construction of publicly-owned sewage treatment works projects which conform to the requirements of the Federal Act and the applicable Federal Regulations. Federal grants are authorized at 75% of the cost of construction as defined by the Act and Regulations.

The following pages detail the criteria used to develop the system for establishing priorities for Federal funding of municipal sewage treatment works projects in Illinois. The priority system encompasses three major concepts:

I. Segment Ranking Index (SRI)

II. Municipal Discharge Index (MDI)

III. Grant Priority Index (GPI)

This document differs from your October 29, 1973 copy of "Criteria For Determining Federal Grant Priorities For Funding Municipal Sewage Treatment Works Projects". The Fiscal Year 1974 public participation process resulted in the expansion of some grant formula interpretations to insure consistency. This document includes these interpretations as they were implemented in the preparation of the Fiscal Year 1974 Priority List and also introduces some new conventions for Fiscal Year 1975.

The expanded interpretations implemented for Fiscal Year 1974 include the following: (Note: Convention numbers correspond to numbers on pages 11 and 12.)

CONVENTION			
1a)	Expansion and/or Upgrading	-	category expanded to include certain sewer rehabilitation work (see page 11 of this document)
2a)	Interceptor to phase out existing sewage treatment plant(s)	-	convention is identical with convention 1c (see page 12 of this document)
2b)	Interceptor to provide service to presently unsewered communities	-	convention includes consideration of regional plant F_3 and F_4 values (see page 12 of this document)

New conventions being introduced for Fiscal Year 1975 are identified throughout this presentation by the use of capital letters. These new conventions include: (Note: Convention numbers correspond to numbers on pages 12 and 13).

CONVENTION

1d) NEW SEWAGE TREATMENT PLANT FOR UNSEWERED COMMUNITY HAVING A RAW DISCHARGE - provides F_2 credit similar to the procedure used for water treatment plants for which no treatment is available (see page 12 of this document)

2c) INTERCEPTOR SEWER FOR UNSEWERED COMMUNITY HAVING A RAW DISCHARGE - provides F_2 credit similar to the procedure used for water treatment plants for which no treatment is available (see page 13 of this document)

6) WASTE WATER RECYCLING PROJECTS - provides a separate convention for this type of project (see page 13 of this document)

I PROCEDURE FOR CALCULATING THE SEGMENT RANKING INDICES (SRI)

Regulations promulgated to implement the Federal Water Pollution Control Act Amendments of 1972 introduce a new geographic concept: the segment. As defined, a segment is a portion of a river basin "the surface waters of which have common hydrologic characteristics or flow regulation patterns ; common natural physical, chemical, and biological processes, and which have common reactions to external stresses, e.g., discharge of pollutants".

Illinois river basins have been divided into a total of 123 segments which, taken together, cover the entire state. Each segment is identified by an alphanumeric code. "A"-type segments generally identify major tributary sub-basins or portions thereof; "B"-type segments are portions of the main stem of the principal river in the basin and the drainage areas of minor tributaries to that portion of the main stem.

Federal Guidelines (40 CFR, Part 130.41) require that river basin segments be ranked in order of priority, taking into account the following four items:

1) severity of pollution
2) population affected
3) the need for preservation of high quality waters
4) national priorities as determined by the United States Environmental Protection Agency (USEPA) Administrator

In order to arrive at an objective determination of segment priority rating, the four criteria are expressed as numerical values, based on available data. The numerical values are in turn combined to establish a ranking index for each of the basin segments.

The following paragraphs outline the step-by-step procedure used in this process.

A) Severity of Pollution Problems

This criterion has been selected as the basic segment ranking parameter. It is interpreted by the Illinois Environmental Protection Agency as the measured value of certain critical water quality parameters in the waters of the state (using data collected at 620 water quality sampling stations during 1972 and 1973), compared with the applicable Pollution Control Board water quality standards for those parameters. The procedure of assessing water quality problems consists of two parts:

Part 1) averaging the 1972-73 sample data for each of 5 key parameters (dissolved oxygen, fecal coliform bacteria, ammonia nitrogen, total dissolved solids, and nitrate plus nitrite nitrogen)*

Part 2) determining the percentage of 1972-73 samples which indicated violations of applicable water quality standards for dissolved oxygen, ammonia nitrogen, fecal coliform bacteria, total dissolved solids, and pH*

Parts 1 and 2 produce 10 parameter values for each station. The 10 sets of data are then arranged in order of severity and given a rank number. These numbers are subsequently combined to compute a water quality index for each station, according to the following formula:

$$S = \frac{1}{2}(R_A+R_V)_{Amm} + \frac{1}{2}(R_A+R_V)_{DO} + \frac{1}{2}(R_A+R_V)_{Fec\ Col}$$

$$+ \frac{1}{2}(R_A+R_V)_{TDS} + R_{V_{pH}} + R_{A_{N+N}}$$

where:

S = "Water Quality Index" value for a given station

R_A = Rank number by average value for a given station and parameter

R_V = Rank number by percent violations of water quality standard for a given station and parameter

Amm, DO, Fec Col, TDS, pH, N+N = Parameter designation subscripts

The S values found for each station are used as a basis for determining a water quality index value for the basin segments. This process requires the averaging of S values for each segment according to the following formula:

$$WQI = (S_1 + S_2 + S_3 + \ldots + S_N)\ /N$$

where WQI = segment water quality index value = average of station S values for the segment, and

N = number of stations in the segment

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* The parameter pH (relative acidity) is not considered in part 1 because its nature is such that an "average" pH is generally meaningless as an expression of water quality. Nitrate plus nitrite nitrogen is not considered in part 2 because there is no numerical standard which applies for most water quality sampling stations.

The WQI values found in this manner are subsequently adjusted for the three other criteria considered in the ranking process. In the following paragraphs, the methods of obtaining the adjustment factors are discussed in detail.

B) Population Affected

Operationally, "population affected" is defined as being the 1970 U.S. Census population of the segment except where significant inter-segment transfers of sewage occur in which case the estimated population whose sewage is tributary to the segment is added to the resident population of the segment. This "population affected" is used to adjust the segment WQI value determined by the previously described procedure. The rationale underlying this approach is that (1) the population most affected by the water quality, or lack of same, is that which resides in the segment in which the pollution sources occur; and (2) the ranking of segments is intended to establish priorities for pollution abatement programs. The population most affected by programs to improve water quality would be that of the segment in which such program is implemented. On the basis of this reasoning, populations are computed for each segment and converted into an adjustment factor.

Population figures of the incorporated and unicorporated communities are recorded for each segment. Where a segment boundary splits a township, the unincorporated population within the segment is prorated by applying a percentage to the township population equal to the ratio of the segment area in the township to the total township area. The populations of the various political subdivisions within each segment are totaled.

The following "population factors" are applied as multipliers to the water quality index values:

Segment Population	Factor
0 - 20,000	1.00
20,001 - 50,000	1.05
50,001 - 100,000	1.10
over 100,000	1.20

C) Need for Preservation of High Quality Waters

Certain segments have been identified as having high-quality waters where special management and waste control procedures may be needed for their preservation. Segments containing a major lake or impoundment are so classified.

It is recognized that certain free-flowing stream reaches also have high water quality. However, these were not identified as needing special preservation techniques due to the stringency of the State's effluent standards. Lakes and impoundments do require special attention because the effluent standards may not be sufficient to prevent degradation of water quality in standing bodies of water.

The segments selected under this criterion are assigned a "High Quality Water Factor" of 1.20. Segments immediately tributary to these segments are given a factor of 1.10. These factors are also used as multipliers, applied to the population factor-adjusted WQI value.

D) National Priorities as Determined by the Administrator

Certain segments in the Lake Michigan Basin, the Chicago Metropolitan Area and the East St. Louis Metropolitan Area have been designated by the United States Environmental Protection Agency as having high national priority. They are therefore assigned a "National Priorities Factor" of 1.05, which is applied to the previously adjusted WQI value.

Segment Ranking Index

The Water Quality Index values (WQI) calculated for each segment are adjusted by the use of the following formula, resulting in the Segment Ranking Index (SRI).

SRI = WQI x Population Factor x High Quality Water
Factor x National Priorities Factor

Segments are then ranked by decreasing value of SRI.

II. PROCEDURE FOR CALCULATING THE MUNICIPAL DISCHARGE INDICES (MDI)

Federal regulations (40CFR 130.43) require the State to annually prepare a State Municipal Discharge Inventory, which is to be a "ranking of significant municipal discharges". The procedure to be followed in preparing this list requires that all "significant municipal discharges" be ranked and categorized consistent with the rank of the basin segment to which they discharge. The segment ranking is to be an important factor in ranking of municipal dischargers.

As the first step in developing the Municipal Discharge Inventory it was necessary to define a "significant municipal discharger". The definition which has been developed is based on the concept of eligibility for Federal grant assistance for construction of facilities required to prevent water pollution by the discharge. Using this concept, all publicly-owned discharges except those owned by the Federal government or by a school district are included. Because it has not been the practice of state government agencies in Illinois to apply for Federal grant assistance to construct wastewater treatment facilities, these dischargers have been omitted from the Municipal Discharge Inventory list. Sewerage utilities and privately-owned subdivision sewage treatment plants have also been omitted since they are not eligible for grants.

In order to carry out the ranking of municipal dischargers, a quantitative formula has been developed which incorporates three considerations for accomplishing the ranking of dischargers: (1) quantity of wastewater adjusted for strength; (2) adequacy of existing facilities for treating the existing wastewater load to design level; and (3) adjusted segment ranking index. While only the third of these considerations relates directly to segment ranking, the first two also address criteria required to be used in ranking segments: quantity and strength of a discharger's wastes and the degree to which wastes are treated at present. These are important considerations in analyzing the severity of pollution problems in a segment. The specific formula which considers these three factors is designed to produce a "Municipal Discharge Index" value (MDI) which becomes an important determinant of priority for grant assistance to the discharger. The formula is as follows:

$$F_1 = \underline{\text{Discharge Quantity Factor}}$$

$$= \log_{10} (\text{P.E.}^{*}_{\text{BOD}}, \text{ existing load})^{**}$$

Range of values: 0.000 to 6.9626

$$F_2 = \underline{\text{Existing Facility Adequacy Factor}}$$

$$= \left[\frac{\text{P.E.}^{*}_{\text{BOD}}, \text{ existing load (industrial \& domestic)}^{**}}{\text{P.E.}^{*}_{\text{BOD}}, \text{ existing design capacity}}\right] \times \left[\frac{\text{daily average flow, existing load}^{**}}{\text{daily average flow, existing design capacity}}\right] + 1.0$$

Range of values: 1.000 to 14.646

$$F_3 = \underline{\text{Adjusted Segment Ranking Index}}$$

$$= \left[\frac{\text{SRI, receiving segment}}{\text{SRI, maximum statewide value}}\right]$$

Range of values: .325 to 1.000

$$\text{MDI} = \underline{\text{Municipal Discharge Index}}$$

$$= F_1 \times F_2 \times F_3$$

Range of values: 0.000 to 31.038

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* 1 PE_{BOD} = 0.17 lbs. of 5-day biochemical oxygen demand per day.

** Where the applicant justifies hydraulic and organic loadings on the basis of influent sampling and flow measurement results for a current 12 month period these justified values will be used. In cases where influent sampling and/or flow measurement results are not available for a current 12 month period and where the applicant justifies estimated connected domestic PE and provides (measured) industrial PE and/or where the applicant provides estimated flow based on 100 gpcpd and provides (measured) industrial flow, these justified values will be used.

At the time of scoring of a project for priority, in situations where other construction is underway or where other construction has been completed for expansion of capacity and/or increased degree of treatment, the project score will reflect the construction (score will be less) if, at the time of the application filing deadline, the approved estimate of work in place indicates 100 percent completion of all portions of the contract except miscellaneous work.

Using this formula, the "worst" municipal discharger is identified by the largest MDI value of 31.038 and the municipal discharger least in need of attention from the Agency is the one whose MDI value is 0.000.

III. PROCEDURE FOR CALCULATING THE GRANT PRIORITY INDICES (GPI)

Federal guidelines for preparation of the Construction Grant Project List (40CFR 35.915, Sub-Paragraph (c) (1)) provide that the same four criteria used for ranking basin segments, namely severity of pollution problems, population affected, need for preservation of high quality waters, and national priorities as determined by the Administrator shall be considered in setting priorities for funding of grants, and provide that the priorities for grants be consistent with the ranking of discharges in the Municipal Discharge Inventory. The sequence in the Municipal Discharge Inventory need not be followed rigidly, however, so long as projects to be funded are concentrated in high priority areas and segments.

The procedure recognizes that the four segment ranking criteria are fully considered in development of the Municipal Discharge Inventory. The MDI value derived by the procedure previously described is used as an input to a formula which produces a "Grant Priority Index" for each project. The basic concept is that the MDI value reflects the seriousness of a discharge as a water quality problem. To derive a Grant Priority Index (GPI) value, it is also necessary to consider the corrective measures required to provide the degree of treatment needed for meeting State effluent standards or other effluent limitations. This is accomplished through a scoring procedure which:

1) establishes relative values for secondary, tertiary, advanced and supplemental treatment processes for the treatment of average daily dry weather flow and maximum daily dry weather flow; primary treatment and disinfection of maximum wet weather flow; rehabilitation of existing processes and expansion of sludge disposal facilities; and construction of new trunk and lateral sewers

2) assigns the established values for

    a) addition of secondary and/or tertiary and/or advanced and/or supplemental treatment processes where at the present time, the processes to be added by the project are entirely lacking; where the additional treatment processes required would be based on the following dilution ratios:

Dilution Ratio	Processes Required*
Greater than 5:1	Primary, Secondary
Greater than 1:1 and less than 5:1	Primary, Secondary, Tertiary, Nitrogen Removal
Less than 1:1	Primary, Secondary, Tertiary, Advanced, Nitrogen Removal

*Some projects may also require phosphorous removal or nitrogen removal regardless of their dilution ratio.

b) additional capacity for currently (hydraulically and/or organically) overloaded treatment processes: If the average daily flow or the connected population equivalent (for a 12 month period) exceeds the design basis of any of the treatment processes (exclusive of sludge beds), the entire treatment plant will be classified as overloaded.

For an overloaded facility, values from the table of F_4 values for the average and maximum design flow for existing treatment processes (as well as 6 points for sludge handling facilities) will be assigned to the project.

For a facility which is not overloaded as defined above, but where sludge bed capacity is presently inadequate. Sludge beds will be determined to be inadequate where the connected population equivalent (for a 12 month period) exceeds the design basis of the sludge beds.

If the facility is not overloaded based on the average daily flow, the project may receive credit for overloading on the maximum dry weather flow. Where the applicant justifies, on the basis of influent flow measurement for a 12 month period that the average of the peak dry weather flows to the plant exceeds the rated peak capacity of the plant for complete treatment of dry weather flow (where rated peak capacity is normally 2½ times rated capacity for average daily dry weather flow), the project will receive credit for overloading under maximum dry weather flow conditions.

c) projects which involve the upgrading of an existing treatment plant will be credited with one point for "Rehabilitation of existing processes or modifications which do not increase capacity or degree of treatment".

, or

d) the construction of new trunk and lateral sewers where, at the present time, the sewers are lacking, or the rehabilitation of existing sewers where rehabilitation will not eliminate excessive infiltration/inflow.

Based on the above assignment of values, a multiplication factor to convert a MDI to a GPI, namely F_4, is derived through a summation of the assigned values for the project:

*F_4 = Point values assigned for additional treatment processes required.

+ currently overloaded facilities

+ rehabilitation

Specifically the established F_4 values are the following:

TABLE OF F_4 VALUES			
Treatment Process	Average Dry Weather Flow	Maximum Dry Weather Flow	Maximum Wet Weather Flow
Primary	0	0	8
Secondary	14	10	0
Tertiary (10/12)	8	6	0
Advanced (4/5)	4	2	0
Disinfection	6	6	6
Phosphorus Removal	5	3	0
Nitrogen Removal	8	6	0
Inadequate Sludge Handling Facilities			6
Rehabilitation of existing processes or modifications which do not increase capacity or degree of treatment			1
, or			
Trunk and/or Lateral Sewers			1

Range of Values: 0 to 99

After the value of F_4 is determined, the GPI value for each project is calculated:

GPI = Grant Priority Index
= MDI x F_4

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* Projects invloving unsewered communities cannot receive credit for maximum wet weather flow, inadequate sludge handling facilities, and rehabilitation of existing processes or modifications which do not increase capacity or degree of treatment.

Projects are ranked for grant funding priority in decreasing order of GPI value; thus the larger the GPI value, the higher the grant priority.

Specifically, the priority system just described is applied with the following conventions and general results (see Appendix I to this document for examples of each of the following general cases):

1) Expansion and/or upgrading of an existing sewage treatment plant, or construction of a new sewage treatment plant, or sewer rehabilitation work to eliminate excessive infiltration and/or inflow:

   a) expansion and/or upgrading of an existing sewage treatment plant or sewer rehabilitation work which will eliminate excessive infiltration and/or inflow: the MDI value for the plant, together with the F_4 value for the treatment processes affected at the plant* are used to calculate the GPI value for the project.

   b) construction of a new sewage treatment plant for a currently unsewered community: since a discharge does not yet exist, a MDI value (Municipal Discharge Index) does not exist, and an "artifical" MDI value must be calculated. For this purpose, estimated current population equivalent of the area to be served is used in calculating F_1; F_2 is set equal to 1.0; and the segment to receive the proposed discharge determines F_3. The MDI is then calculated ($MDI = F_1 \times F_2 \times F_3$). The treatment processes required at the proposed sewage treatment plant determine F_4. The GPI is then calculated ($GPI = MDI \times F_4$).

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* Sewer rehabilitation projects:

A) where the sewer rehabilitation work will solve an inflow problem, the F_4 value shall be determined from the existing need** for provision of adequate primary treatment and/or disinfection for wet weather flow in the excess of maximum dry weather flow.

B) where the sewer rehabilitation work will solve an infiltration problem, the F_4 value shall be determined from the existing need** for provision of adequate primary and/or secondary and/or tertiary and/or advanced and/or supplemental treatment for dry weather flow.

C) where the sewer rehabilitation work will solve an infiltration and inflow problem, the F_4 value shall be determined from the existing need** for provision of adequate primary and/or secondary and/or tertiary and/or advanced and/or supplemental treatment of dry weather flow as well as the existing need for provision of primary and/or disinfection of wet weather flow in excess of maximum dry weather flow.

** Existing need should be determined using overload/no overload criteria for existing treatment processes and dilution ratio for additional processes required by standards.

c) construction of a new regional plant or expansion and/or upgrading of an existing sewage treatment plant to phase out one or more existing sewage treatment plants: the highest of the MDI values as well as the highest of the F_4 values among the values for the existing or proposed regional plant and the values for the existing plant(s) to be phased out (exclusive of non-municipally owned treatment works) are used to calculate the GPI for the regional plant.

d) CONSTRUCTION OF A NEW SEWAGE TREATMENT PLANT FOR A CURRENTLY UNSEWERED COMMUNITY WHERE A DISCHARGE OF RAW OR PARTIALLY TREATED SEWAGE DOES EXIST.* A MDI VALUE (MUNICIPAL DISCHARGE INDEX) DOES NOT EXIST, AND AN "EQUIVALENT" MDI MUST BE CALCULATED. FOR THIS PURPOSE, ESTIMATED CURRENT POPULATION EQUIVALENT OF THE AREA TO BE SERVED IS USED IN CALCULATING F1; F2 IS SET EQUAL TO 2.0; AND THE SEGMENT TO RECEIVE THE PROPOSED DISCHARGE DETERMINES F3. THE MDI IS THEN CALCULATED (MDI = F1 x F2 x F3). THE TREATMENT PROCESSES REQUIRED AT THE PROPOSED SEWAGE TREATMENT PLANT DETERMINED F4. THE GPI IS THEN CALCULATED (GPI = MDI x F4).

2) Construction of an interceptor sewer:

a) transport of sewage from end point(s) of existing collection system(s) to an existing or proposed treatment plant other than the plant(s) to be phased out: proceed in a manner identical to the procedure in 1c above.

b) transport of sewage from end point(s) of proposed collection system(s) to an existing or proposed regional treatment plant: the calculation of the F_1 and F_2 values proceeds similarly to 1b above. The F_4 value will be selected from the larger of the values for the degree(s) of treatment which would be required at the local location of the collection system and at the regional plant. The F_3 value will also be selected from the larger of the value(s) for the basin segment containing the pollution system and the basin segment containing the regional plant.

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* A point discharge of raw or partially treated sewage exists for purposes of determining priority if the applicant establishes that the PE^{**}_{BOD} of the discharge from the sewer system is at least equal to 65 percent of the total domestic population plus 100 percent of any tributary industrial PE^{**}_{BOD}, on the basis of no less than three samples (24 hour composite) of the discharge, collected directly from the sewer system outfall to the receiving stream and corresponding comparable flow measurements of the discharge, on different days. Copies of laboratory reports must be submitted as a part of the "Priority Scoring Summary" to permit a project to qualify under these criteria, and an on-site investigation by Agency representatives may be made, in which case the Agency investigation results will be considered conclusive for scoring purposes.

** See asterisk on page 7.

c) CONSTRUCTION OF AN INTERCEPTOR SEWER FOR A CURRENTLY UNSEWERED COMMUNITY WHERE A DISCHARGE OF RAW OR PARTIALLY TREATED SEWAGE DOES EXIST.* A MDI VALUE (MUNICIPAL DISCHARGE INDEX) DOES NOT EXIST, AND AN "EQUIVALENT" MDI MUST BE CALCULATED. FOR THIS PURPOSE, ESTIMATED CURRENT POPULATION EQUIVALENT OF THE AREA TO BE SERVED IS USED IN CALCULATING F1; F2 IS SET EQUAL TO 2.0; AND THE SEGMENT TO RECEIVE THE PROPOSED DISCHARGE DETERMINED F3. THE MDI IS THEN CALCULATED (MDI = F1 x F2 x F3). THE TREATMENT PROCESSES REQUIRED AT THE PROPOSED SEWAGE TREATMENT PLANT DETERMINED F4. THE GPI IS THEN CACLULATED (GPI = MDI x F4).

3) Elimination or treatment of on-system wet weather overflow(s): Regardless of the approach to a solution of this problem** or the extensiveness of the problem, the MDI for the plant currently providing service, and an F4 value of 14 (established values for primary treatment and disinfection of maximum wet weather flow) are used in the calculation of a GPI value.

4) Construction of trunk and lateral sewers:

a) rehabilitation work which will not eliminate excessive infiltration/inflow: the MDI value for the plant, together with an F_4 value of 1 are used to determine the GPI value, and therefore, GPI = MDI.

b) complete new collection system: the calculation of the GPI value proceeds similarly to case 1b above, except that in this case $F_4 = 1$, and therefore, GPI = MDI.

c) extension of service by an existing collection system: the calculation of the GPI value proceeds similarly to case 2b above, except that in this case an estimate of the existing population equivalent to be served by the sanitary sewer extension only is used in determining F_1, and then GPI = MDI.

5) Expansion and/or upgrading of an existing waste treatment plant or construction of a new waste treatment plant or construction of an interceptor sewer for wastes from water treatment plants:

In this case the population equivalent based on suspended solids*** is used in place of the population equivalent based on biochemical oxygen demand. In the case of a project to provide treatment of such wastes where none is presently provided, a value of 2.0 is used for F_2 in the calculation of MDI and then GPI = MDI x F4. If a project consists of an interceptor sewer, the appropriate convention in (2) above is followed; otherwise, the convention in (1) above is followed.

6) WASTEWATER RECYCLING PROJECTS: THE MDI VALUE FOR THE PLANT, TOGETHER WITH AN F4 VALUE OF 1 ARE USED TO DETERMINE THE GPI VALUE, AND THEREFORE, GPI = MDI.

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* See asterisk on page 12.

** See asterisk on page 11.

*** 1 PE_{SS} equals 0.22 lbs. of suspended solids per day.

In addition to the above, the following procedures will be followed:

1) Needs which consist of plant improvements and interceptor sewers, and which will be satisfied through construction of several phases (projects), will be addressed by scoring all projects (phases) with the full credit for the entire need.

2) Projects which consist of the diversion of a significant portion of the average dry weather flow from one plant to another plant will be scored utilizing the regionalization convention.

3) Projects for which project benefits will not accrue within one year after completion of construction will receive F_1 and/or F_4 values of zero.

Even though a project may appear on the priority list prepared in accordance with the procedure described above, a number of conditions must be met before the project will be certified to the United States Environmental Protection Agency as entitled to priority for a grant award:

1) An eligible unit of government must apply for Federal grant assistance in a manner consistent with policies of the Illinois Environmental Protection Agency.

2) All applicable requirements set out in Federal regulations must be fulfilled for a grant (Step 1, 2 or 3). In particular, all grant projects must satisfy all applicable water quality management planning requirements, including infiltration/inflow requirements before Step 2 or 3 grants may be offered. In addition, Step 2 and 3 grant projects must satisfy the Federal regulations regarding user charges, industrial cost recovery and permit requirements of the National Pollutant Discharge Elimination System. A Step 1 grant would generally be offered for facilities planning and/or related elements; a Step 2 grant would be offered for the preparation of construction drawings and specifications; and a Step 3 grant would be offered for the fabrication and building of a treatment works.

3) If the grant is to include costs of purchase or construction of the proposed facilities (Step 3), the applicant must possess a valid permit to construct the proposed facilities, issued by the Illinois Environmental Protection Agency, unless no such permit is required by State law or regulation.

4) No grant or combination of grants will be certified in an amount which will allow a single grantee or a single grantee's service area to receive more than 50 percent of the available funds in a fiscal year, unless such an award is deemed by the Director of the Illinois Environmental Protection Agency to be in the best interests of the citizens of Illinois.

5) In order that Federal funds will not be lost to the State of Illinois, provision will be made to obligate Federal funds allocated to the State which are not obligated as of February 1 of the same year that the allotment period for the funds expires. These provisions may include amending the project priority list by deletion and/or addition of projects.

6) Projects that were determined to be within available Federal and/or State funds on the FY 74 Construction Grant Priority List, that is those with a priority rank of 1 through 125, will retain their position through a Step III grant award or until the need represented by that priority rank has been satisfied, provided that the approved project(s) is progressing in a manner consistent with applicable construction grant regulations and the grant agreement.

APPENDIX I

TYPE OF PROJECT	F1	F2	F3	F4
1) Treatment Plant				
a) Expansion and/or upgrading of an existing facility, and/or sewer rehabilitation work to eliminate excessive infiltration and/or inflow.	$\log_{10}$ (P.E.$_{BOD}$, existing load)	$\left[\frac{\text{P.E.}_{BOD}\text{, existing load}}{\text{P.E.}_{BOD}\text{, existing design cap.}} \times \frac{\text{daily avg. flow, existing load}}{\text{daily avg. flow, existing design cap.}}\right] +1$	$\frac{\text{SRI, receiving segment}}{\text{SRI, max. statewide value}}$	Accumulative score for the plant additions and expansions as required.
b) A proposed sewage treatment plant which will provide treatment for a currently unsewered community	$\log_{10}$ (estimated current PE$_{BOD}$ to be served by the proposed sewage treatment plant)	1.0	$\frac{\text{SRI, proposed receiving segment}}{\text{SRI, max. statewide value}}$	Accumulative score for the degree of treatment required.
c) Regional sewage treatment plant which will phase out one or more facilities	----------------------------Use the largest MDI value among the values for the facilities to be phased out and the regional plant value.			Use the largest F_4 value among the values for the facilities to be phased out and the regional plant value.
d) A proposed sewage treatment plant which will provide treatment for a currently "unsewered" community which has a pollutional discharge.	$\log_{10}$ (estimated current PE$_{BOD}$ to be served by the proposed sewage treatment plant	2.0	$\frac{\text{SRI, proposed receiving segment}}{\text{SRI, max. statewide value}}$	Accumulative score for the degree of treatment required.
2) Interceptor Sewers				
a) An interceptor sewer for the transport of sewage from facility (ies) to be phased out	----------------------------Use the largest MDI value among the values for the facilities to be phased out and the regional plant value.			Use the largest F_4 value among the values for the facilities to be phased out and the regional plant value.
b) An interceptor sewer to service an unsewered area	$\log_{10}$ (estimated current PE$_{BOD}$ to be served by the proposed interceptor sewer)	1.0	$\frac{\text{SRI, local or regional plant value}}{\text{SRI, max. statewide value}}$	Use the value for the degree of treatment required at either the regional plant or the alternate (local) plant.
c) An interceptor sewer which will provide treatment for a currently "unsewered" community which currently has a pollutional discharge.	$\log_{10}$ (estimated current PE$_{BOD}$ to be served by the proposed interceptor sewer	2.0	$\frac{\text{SRI, local or regional plant value}}{\text{SRI, max. statewide value}}$	Use the value for the degree of treatment required at either the regional plant or the alternate (local) plant
3) On-System Wet Weather Overflow Elimination	----------------------------Use the MDI value for the existing sewage treatment plant (1a)----------------			14
4) Trunk and Lateral Sewer Projects				
a) Rehabilitation work which does not eliminate excessive infiltration/inflow	----------------------------Use the MDI value for the receiving sewage treatment plant--------------------			1
b) Complete new collection system for a currently unsewered community	----------------------------Use the MDI value for the proposed sewage treatment plant (1b)----------------			1
c) Extension of service by an existing collection system	$\log_{10}$ (estimated current PE$_{BOD}$ to be served by the proposed sewer extension)	1.0	$\frac{\text{SRI, receiving segment}}{\text{SRI, max, statewide value}}$	1
5) Water Treatment Plant Wastes				
a) New waste treatment facility (no treatment currently provided)	$\log_{10}$ (P.E.$_{SS}$, existing load)	2.0	$\frac{\text{SRI, proposed receiving segment}}{\text{SRI, max. statewide value}}$	Accumulative score for the degree of treatment required.
b) Expansion and/or upgrading of an existing waste treatment facility	$\log_{10}$(P.E.$_{SS}$, existing load)	$\left[\frac{\text{P.E.}_{SS}\text{, existing load}}{\text{P.E.}_{SS}\text{, existing design cap.}} \times \frac{\text{daily avg. flow, existing load}}{\text{daily avg. flow, existing design cap.}}\right] +1$	$\frac{\text{SRI, receiving segment}}{\text{SRI, max. statewide value}}$	Accumulative score for the additions and expansions as required.
6) Wastewater Recycling	----------------------------Use the MDI value for the existing sewage treatment plant (1a)----------------------			1

Municipal Discharge Index (MDI) = $F_1 x F_2 x F_3$ Grant Priority Index (GPI) = F_4xMDI PE$_{BOD}$: 1PE$_{BOD}$ = 0.17 lbs. of BOD$_5$ per day

PE$_{SS}$: 1PE$_{SS}$ = 0.22 lbs. of suspended solids per day SRI: SRI = Segment Ranking Index